

**Before the
Federal Communications Commission
Washington, D.C. 20554**

| | | |
|--|---|--------------------------|
| In the Matter of |) | |
| |) | |
| Expanding the Economic and Innovation |) | Docket No. 12-268 |
| Opportunities of Spectrum Through |) | |
| Incentive Auctions |) | |
| |) | |
| |) | |
| |) | |

To the Commission:

Comments of Nickolaus E. Leggett, N3NL

I am a certified electronics technician (ISCET and iNARTE) and an Extra Class amateur radio operator (call sign N3NL). I hold an FCC General Radiotelephone Operator License with a Ship Radar Endorsement. I am an inventor holding three U.S. Patents. My latest patent is a wireless bus for digital devices and computers (U.S. Patent # 6,771,935). I have a Master of Arts degree in Political Science from the Johns Hopkins University.

I am one of the original petitioners for the establishment of the Low Power FM (LPFM) radio broadcasting service (RM-9208 July 7, 1997 subsequently included in MM Docket 99-25). I am also one of the petitioners in the docket to establish a low power radio service on the AM broadcast band (RM-11287). I have filed a total of over 200 formal comments with the FCC over the years since the 1970s. I have filed comments with other Federal agencies as well including the USPTO, FAA, EPA, and the TSA.

Channel 37 Recommendations

My comments are directed at Paragraphs 199 through 208 of the Notice of Proposed Rulemaking. These comments discuss the Radio Astronomy Service (RAS) operation in the frequency range of 608 to 614 MHz.

It would clearly be easier to leave radio astronomy in its current assignment on Channel 37 and repack the rest of the television band around the existing Channel 37 allocation. Since the basic repacking operation consists of moving stations around, there is no particular reason to have to move radio astronomy away from the existing Channel 37.

The Impacts of Unlicensed Devices

Even more important is the fact that new unlicensed services should be kept off of Channel 37. Adding unlicensed services would result in growing numbers of radio interference sources and an increasing noise floor on Channel 37. It is important to remember that radio astronomy is extremely susceptible to interference. Even very low power devices can cause big problems for radio astronomy.

Unlicensed radio transmitting devices tend to be part of mass market consumer goods that are manufactured in very large volumes. Literally millions of radio emitting devices could be placed on Channel 37. These sources would result in radio pollution for radio astronomy. In addition, there is no practical way that radio astronomers can coordinate with these numerous consumer devices, and there is no way that the Commission could change its mind and remove the unlicensed devices from operating on Channel 37. Also having a quiet zone around a radio astronomy observatory does not work for unlicensed devices since they are not tracked by any governmental bureaucracy with a resulting lack of accountability for their operation.

Amateur Radio Astronomy versus Unlicensed Devices

Also, Paragraph 237 of the NPRM states that “there are relatively few radio astronomy operations, all at specified locations.” This is not correct. In reality, there are just a few professional radio astronomy operations. However, there are many more amateur radio astronomy operations within the United States. Many of these are radio telescopes operated in educational environments such as high schools, junior colleges, colleges, and universities. In addition, there are radio telescopes built and operated by amateur scientists who are doing good observational work. We do not want to block these efforts from Channel 37 by allowing large numbers of unlicensed devices on the channel. Having the professional radio observatories in the white space database provides no protection at all for student and amateur astronomy radio telescopes. These amateur scientists are not accounted for at all in the Commission’s proposed regulations for radio astronomy in Channel 37.

Summary

In general, it would be preferable to leave the radio astronomy service as it is, and to definitely keep unlicensed devices off of Channel 37. In addition, the Commission should take constructive steps to recognize amateur radio astronomers and to protect them from interference on Channel 37 and elsewhere.

Respectfully submitted,

**Nickolaus E. Leggett, N3NL
1432 Northgate Square, #2A
Reston, VA 20190-3748
(703) 709-0752**

October 4, 2012d